

CLAIMS:

1. A method for operating at least a valve in at least
a cylinder of an internal combustion engine, the method
5 comprising:

operating said valve at least during a first
operating condition of a transmission coupled to said
internal combustion engine; and

deactivating said valve at least during a
10 second operating condition of said transmission coupled
to said internal combustion engine.

2. The method of Claim 1 wherein said first operating
condition of said transmission is an elevated
15 transmission oil temperature.

3. The method of Claim 1 wherein said second operating
condition of said transmission is a low transmission oil
temperature.

20 4. The method of Claim 1 wherein said first operating
condition of said transmission is a low gear of said
transmission.

25 5. The method of Claim 1 wherein said second operating
condition of said transmission is a high gear of said
transmission.

6. The method of Claim 1 wherein said valve is an
30 electromechanical valve.

7. A method for controlling at least an electromechanically actuated valve to operate in at least a cylinder of an internal combustion engine, the method comprising:

5 determining an operating condition of a transmission coupled to said internal combustion engine; evaluating whether to operate said electromechanically actuated valve in said cylinder based on said operating condition; and

10 operating said selected electromechanically actuated valve during a cycle of said cylinder based on said evaluation.

8. The method of Claim 6 wherein said operating
15 condition is the current and next gear selection of said transmission.

9. The method of Claim 6 wherein said operating
20 condition is the oil temperature of said transmission.

10. The method of Claim 6 wherein said operating condition is a selected transmission gear.

11. The method of Claim 1 wherein said operating
25 condition is the state of a torque converter lock-up clutch.

12. The method of Claim 6 wherein said operating
30 condition is a torque loss of said transmission.

13. The method of Claim 6 wherein said operating condition is a position of a gear selector switch.

14. A method for controlling electromechanically actuated valves to operate in an internal combustion engine, the method comprising:

5 determining an operating condition of a transmission coupled to said internal combustion engine;
 selecting a number of electromechanical valves based on said determined transmission operating condition; and
 operating said internal combustion engine with
10 said selected electromechanical valves during a cycle of said cylinder based on said evaluation.

15 15. The method of Claim 13 wherein said operating condition is the current and next gear selection of said transmission.

16. The method of Claim 13 wherein said operating condition is the oil temperature of said transmission.

20 17. The method of Claim 13 wherein said operating condition is a selected transmission gear.

18. The method of Claim 13 wherein said operating condition is the state of a torque converter lock-up
25 clutch.

19. The method of Claim 13 wherein said operating condition is a torque loss across said transmission.

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20. A method for controlling at least an electromechanically actuated valve to operate in at least a cylinder of an internal combustion engine, the method comprising:

5 determining an operating condition of a transmission coupled to said internal combustion engine;
 selecting number of cylinders to operated based on said determined transmission operating condition; and
 operating said internal combustion engine with
10 said selected number of cylinders during a cycle of said cylinder based on said determination.

21. The method of Claim 19 wherein said operating condition is the current and next gear selection of said
15 transmission.

22. The method of Claim 19 wherein said operating condition is the oil temperature of said transmission.

20 23. The method of Claim 19 wherein said operating condition is a selected transmission gear.

24. The method of Claim 19 wherein said operating condition is the state of a torque converter lock-up
25 clutch.

25. The method of Claim 19 wherein said operating condition is a torque loss of said transmission.

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26. A method for controlling at least an electromechanically actuated valve to operate in at least a cylinder of an internal combustion engine, the method comprising:

5 determining an operating condition of a transmission coupled to said internal combustion engine; selecting a number of cylinders and electromechanical valves to operate based on said determined transmission operating condition; and
10 operating said internal combustion engine with said selected number of cylinders and electromechanical valves during a cycle of said cylinder based on said determination.

15 27. The method of Claim 25 wherein said operating condition is the current and next gear selection of said transmission.

20 28. The method of Claim 25 wherein said operating condition is the oil temperature of said transmission.

29. The method of Claim 25 wherein said operating condition is a selected transmission gear.

25 30. The method of Claim 25 wherein said operating condition is the state of a torque converter.

30 31. The method of Claim 25 wherein said operating condition is a torque loss of said transmission.

32. A computer readable storage medium having stored data representing instructions executable by a computer to control an internal combustion engine of a vehicle, said storage medium comprising:

5 instructions for operating a valve based on a first operating condition of a transmission coupled to said internal combustion engine; and

 deactivating said valve based on a second operating condition of said transmission coupled to said
10 internal combustion engine.

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